

## Quality of Life and Functional Status among the Elderly Population of a Rural area of South India

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### Abstract

*Introduction:* Older people face special physical and mental health challenges which need to be recognized. High prevalence of functional disability is observed in the older adult population. Addressing these areas will improve their quality of life. *Objectives:* To assess the quality of life, determine the level of dependency in instrumental activities of daily living and study the morbidity profile among the elderly population. *Method:* A cross sectional study was conducted among 211 elderly population in a rural area of South India. Data was collected by interview method. WHO's Quality of Life - BREF scale and Lawton Instrumental Activities of Daily Living (IADL) Scale was used. Descriptive analysis was done and Two sample independent t test was used. *Results:* The mean age of the study participants was 67.55 years  $\pm$  6.612 years. Highest score of 52.57 was observed in environmental domain and lowest score of 47.31 was observed in social domain of Quality of life. More than 1/3<sup>rd</sup> of the participants were unable to do the activities related to using telephone, preparing meals and handling money. Lower scores of IADL was seen among those aged 65 years and above and this difference was statistically significant. *Conclusion:* Poor quality of life and higher dependency in carrying out the activities among the elderly was observed reflecting the need to focus on provision of comprehensive geriatric care.

**Keywords:** Elderly; Quality of Life; Instrumental Activities of Daily Living; Rural Area.

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### Introduction

The world's population is ageing rapidly. The proportion of the world's older adults is estimated to double from about 11% to 22% between 2000 and 2050, and expected to more than triple by 2100. It is thus expected to increase from 605 million to 2 billion people over the age of 60 [1]. Almost eight out of 10 older people in India live in rural areas [2].

Older people face special physical and mental health challenges which need to be recognized. Quality of life (QoL) is a holistic approach that focuses on an individual's physical, psychological, and spiritual functioning and connections with their environment. The dilemma of dichotomy of longevity on one hand and compromised QoL is indeed perplexing [3]. Mental health and emotional well-being are as important in older age as at any other time of life [1]. As a result of increase in the life expectancy, there is a need to cater to all aspects of elderly care including socio economic, physical and psychological health. Problems in any of these areas have an impact on the quality of life in old age [4].

Functional status is an individual's ability to live independently and to relate to their environment or to perform normal daily activities required to meet basic needs, fulfill usual roles and maintain health

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and well-being. Loss of functional status is associated with increased risk of institutionalization and falls and it is considered an independent risk factor for mortality. Numerous studies have shown an association between aging and higher risks of functional dependence, as well as a high prevalence of functional disability or limited functional ability in the older adult population. Functional status has been used to describe motor function, ability to perform ADL (activities of daily living) and the ability to perform IADL [5]. Studying functional capacity is useful for assessing elderly people's state of health, in view of their increased life expectancy and the new challenges that they may be facing [6].

National program of health care for the elderly (NPHCE) lays down the objective of providing accessible, affordable, comprehensive and dedicated care services to an ageing population. The program also focuses on capacity building of professionals as well as the care-takers within the family for providing health-care to the elderly [7].

This study was thereby conducted to assess the quality of life, determine the level of dependency in instrumental activities of daily living and study the morbidity profile among the elderly population.

### Materials and Methods

A cross sectional study was conducted in the rural field practice area of a teaching institution of South India. All the elderly of 60 years and above residing in the field practice area were included in the study. Thereby the study comprised of 211 elderly individuals. Institutional ethical approval and written informed consent was obtained from the study participants after explaining them the purpose and nature of the study. Data was collected by interview method using a pre designed, pretested semi structured questionnaire to elicit information on the socio demographic and morbidity profile of the participants. WHO's Quality of Life - BREF scale comprising of 26 questions related to physical, psychological, social and environmental domains was used to assess the quality of life [8]. Lawton Instrumental Activities of Daily Living (IADL) Scale was used to determine their functional status [9]. A trichotomous scoring (1- unable, 2- needs assistance, 3-independent) is followed. A lower score indicates a higher level of dependence. A higher score indicates a lower level of dependence. Data was analysed using SPSS 20.0 version. Descriptive analysis was done by summarizing continuous variables as mean (standard deviation) and categorical variables as frequency

(percentage). Two sample independent t test was used to find whether there was a statistically significant difference in the mean scores of various domains of Quality of life across age, gender and number of morbidity. Two sample independent t test was used to find whether there was a statistically significant difference in the mean scores of IADL across age, gender and number of morbidity. A p value < 0.05 was considered statistically significant.

### Results

The mean age of the study participants was 67.55 years  $\pm$  6.612 years. Majority of the study participants were females and majority belonged to class V socio economic status as per modified BG Prasad's classification. Almost half of the participants were unemployed and more than 50% were married. Amongst the morbidities reported by the participants, majority were musculoskeletal, cardiovascular and diabetes mellitus. (Table 1).

Highest score of 52.57 was observed in environmental domain of Quality of Life. Physical and psychological domain showed scores of 50.71 and 50.31 respectively. Lowest score of 47.31 was observed in social domain of Quality of life. All domains showed higher scores among those aged 65 years and less. Psychological and social domain showed higher scores among males than females and this difference was statistically significant. (Table 2)

More than 1/3<sup>rd</sup> of the participants were unable to do the activities related to using telephone, preparing meals and handling money. Almost half of the participants were able to independently do the activities related to shopping, travelling, preparing meals and taking medications. Lower scores of IADL was seen among those aged 65 years and above and this difference was statistically significant. Females showed higher scores in Instrumental activities of daily living indicating lower dependency. Higher scores were seen among those having less number of morbidity. (Table 3).

### Discussion

In this study the mean age of the participants was 67.55 years  $\pm$  6.612 years which was similar to a study done by Mudey A et al in rural area of Wardha [3]. In our study majority of the participants were females. This was similar to a study done in rural Wardha [3] and rural Tamil Nadu [10]. Majority of the

**Table 1:** Socio Demographic and morbidity profile of the study participants (N=211)

Socio Demographic Variables		Number (%)
Age in years	60-69	163 (77.25)
	70-79	42 (19.90)
	≥ 80 years	6 (2.85)
Gender	Males	77 (36.50)
	Females	134 (63.50)
Educational Status	Illiterate	185 (87.67)
	Primary	15 (7.10)
	High School	8 (3.79)
	Secondary school	2 (0.94)
	Intermediate	1 (0.5)
Occupation	Unemployed	85 (40.28)
	Unskilled	95 (45.02)
	Semiskilled	8 (3.79)
	Skilled	16 (7.58)
	Semi-professional	2 (0.94)
	Professional	5 (2.36)
Marital Status	Unmarried	1 (0.5)
	Married	127 (60.2)
	Widow	80(37.9)
	Widower	3(1.4)
Socio Economic status	Upper high	1 (0.5)
	High	0 (0)
	Upper middle	6 (2.8)
	Lower middle	16 (7.6)
	Poor	62 (29.4)
	Very poor/ BPL	126 (59.7)
Morbidity Profile	Musculo-skeletal	110 (34.16)
	Cardio-vascular	48 (14.90)
	Respiratory	15 (4.6)
	Diabetes Mellitus	35 (10.86)
	Ocular	83 (25.7)
	CNS	10 (3.1)
	Skin/ cutaneous tissue	4 (1.24)
	Renal	2 (0.6)
	Uro-Genital	4 (1.24)
	GIT	6 (1.8)
	ENT	16 (4.96)

**Table 2:** Comparison of Mean Scores of the various domains of Quality of Life and the socio demographic variables (N=211)

Variables	Physical Domain (SD)	Psychological Domain (SD)	Social Domain (SD)	Environmental Domain (SD)	
Age in years	≤ 65	50.86 (11.61)	51.52 (10.90)	47.14 (15.38)	53.51 (12.67)
	> 65	50.53 (11.50)	49.41 (11.46)	47.50 (18.13)	51.53 (13.17)
P value	0.835	0.269	0.879	0.265	
Gender	Male	52.35 (12.29)	52.48 (11.27)	51.19 (15.63)	54.58(12.84)
	Female	49.76 (11.01)	49.06 (10.97)	45.08 (16.95)	51.42(12.86)
P value	0.115	0.03	0.01	0.08	
Number of morbidity	≤ 1	50.47 (11.63)	48.98 (11.84)	41.05 (14.15)	51.14(13.45)
	≥ 2	50.85 (11.51)	51.16 (10.69)	51.29 (17.03)	53.48(12.53)
P value	0.817	0.168	< 0.001	0.199	

**Table 3:** Comparison of Mean Scores of IADL and socio demographic variables (N=211)

Variables	Mean Scores	P value
Age in years	≤ 65 (N= 111)	15.67 (3.01)
	> 65 (N= 100)	13.78 (3.42)
Gender	Male (N= 77)	14.22 (3.34)
	Female (N= 134)	15.09 (3.31)
Number of morbidity	≤ 1 (N= 82)	15.26 (2.85)
	≥ 2 (N= 129)	14.47 (3.59)
		0.094

participants were illiterate and very few were educated upto primary and high school. More than 75% of the participants belonging to rural area of Wardha [3] were illiterate.

However in a study conducted in Hubli [11], majority of the elderly were literate. Majority of the participants belonged to class V socio economic status. This was similar to a study conducted in Dakshina Kannada [12] where most of the participants belonged to below poverty line.

Quality of life assessment showed higher scores in environmental domain and least scores in social domain. A study done among the elderly in Puducherry [13] and Lucknow [14] showed lowest scores in the social domain. However this differed from a study conducted in rural Tamil Nadu [10] where the social domain showed the highest scores. Study conducted among the elderly in urban area of Wardha [3] showed higher scores in social and environmental domain and the reason cited was it could be due to the fact that urban elderly involve themselves in certain socializing groups and thereby have an active social life.

This difference could be because of the difference in the social environment amongst the study groups in these studies. This reflects the need to strengthen the personal relationships with spouses and friends to improve the social domain of quality of life.

All domains showed higher scores among those aged 65 years and less and amongst the males. This was similar to study conducted by Mudey A et al [3] where higher scores were seen in the quality of life domains among those aged below 70 years. Studies have shown statistically significant differences between gender and quality of life scores [3,11,15].

Study done in Hubli [11] showed higher scores in all domains among those having less number of morbidity. However our study differed from this and the reason could be those having more morbidity receive more attention and are provided better care.

The study participants showed higher scores in IADL indicating lower levels of dependence among those aged <65 years, among the females and those having less number of morbidities. Study conducted among the elderly in Bengal [5] also showed similar results of higher dependence among the higher age groups. Females showed more dependency. Chronological age progression, along with the aging process itself are directly related to higher levels of disability, and this has been well described in the literature [6].

## Conclusion

The study showed lower scores in the physical, psychological and social domains of quality of life. Extending social and family support to the elderly would go a long way in improving their quality of life. Dependency was observed among the participants in carrying out certain activities of daily living. Dependency increases with age. This reflects the need for early identification of dependency and the need to rehabilitate them and thereby improve the quality of life.

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